Applications are invited from suitably qualified candidates for the following position:

PhD Position, Natural Polymers for Customized Additive Manufacturing

Insight SFI Research Centre for Data Analytics

Up to 4 years in duration

Organisational Overview

The Insight SFI Research Centre for Data Analytics (http://www.Insight-centre.org) is a joint initiative between researchers at University College Dublin, NUI Galway, University College Cork, and Dublin City University, as well as other partner institutions. It brings together a critical mass of more than 400 researchers from Ireland's leading ICT centres to develop a new generation of data analytics technologies in a number of key application areas.

The €150m Centre is funded by Science Foundation Ireland and a wide range of industry partners. Insight's research focus encompasses a broad range of data analytics technologies from machine learning, decision analytics and social network analysis to linked data, recommender systems and the sensor web. Together, with more than 220 partner companies, Insight researchers are solving critical challenges in the areas of Connected Health and the Discovery Economy.

Area of research: Natural Polymers for Customized Additive Manufacturing

This position is based at Dublin City University.

The PhD will focus on the design and fabrication of biomedical sensors using natural polymer materials and additive manufacturing techniques. A selection of natural polymers produced by bacteria possessing hydroxyl functional groups for potential chemical modification and further biomolecules attachment. Isolated polymer material will be utilised and evaluated for their biocompatibility, bio functionality and potential for structural manipulation. Experiments will be conducted across scales both in the laboratory as well as in the field. This will involve specific polymer biosynthesis, extraction, isolation and purification with subsequent sequential analysis using state using a suite of analytic techniques including mass spectrometry advanced (spectro)microscopy, and polymer extraction and quantification. Additive manufacturing techniques (3D printing) will be utilised for the processing of complex geometries using the extracted polymer with various bio-specific properties for use as biomedical sensors.

Qualifications and Experience
This position is open to candidates who meet the following criteria:
Candidates with a primary degree in an appropriate discipline with first- or second-class honours, grade one, may apply. Candidates with a particular interest for analytical chemistry, materials chemistry and 3D printing or other relevant discipline is expected but candidates with other backgrounds will be considered on a case-by-case basis.

English language requirements for non-native speakers of English is available here: https://www.dcu.ie/registry/english.shtml

Mandatory Training

The post-holder will be required to undertake the following mandatory compliance training: Orientation, Health & Safety and Data Protection (GDPR). Other training may need to be undertaken when required.

Funding
4-year PhD studentship is available which will cover the cost of postgraduate fees and will provide an annual tax-free stipend of €18,500 for up to four years.

Informal Enquiries in relation to this role should be directed to:
Informal enquiries may be addressed to Dr. Margaret McCaul, Insight@DCU
Email: margaret.mccaul@dcu.ie

Application Procedure:
All expressions of interest, to include
1. CV including relevant publications
2. Contact details of 2 referees
3. 1 page cover letter detailing relevant experience and interest in this specific position
in PDF only, are to be submitted by email to: margaret.mccaul@dcu.ie

Please clearly state the role that you are applying for in your application and email subject line:

Job Ref 2001 - PhD Position, Natural Polymers for Customized Additive Manufacturing

Interviews will be carried as soon as suitable candidates are identified, candidates are encouraged to apply as soon as possible.

Closing date: Thursday 12th March 2020

W: insight-centre.org